

U013566-9

WHAT IS CLAIMED IS:

1. A projector comprising:

an optical system including:

a light source that emits a light;

a color beam splitting optical system that splits a light from the light source into beams of predetermined colors;

electro-optical devices that modulates the color beams split by the color beam splitting optical system in accordance with image information;

a color beam combining optical system that combines the color beams modulated by the electro-optical devices; and

a projection lens that projects a resultant beam combined by the color beam combining optical system;

an inner case to which optical components constituting the optical system are attached;

vertically separable outer cases; and

an enclosure which is constituted by the inner case and the one of the outer cases; the inner case being fixed to one of the outer cases so as to accommodate at least the color beam splitting optical system in the enclosure.

2. The projector according to claim 1, wherein

the inner case is an integrated box-shaped body.

3. The projector according to claim 1, wherein

the projection lens is attached to the inner case.

4. The projector according to claim 1, wherein
a thermal insulation material is interposed between the inner case and the outer case that accommodates the color beam splitting optical system.
5. The projector according to claim 4, wherein
the thermal insulation material is formed in a shape of a sheet.
6. The projector according to claim 1, wherein
a prism is attached to the inner case, the prism constituting the color beam combining optical system.
7. The projector according to claim 6, wherein
a recessed portion is formed adjacent to the projection lens on a top outside of the inner case, and
the electro-optical device and the prism constituting the color beam combining optical system are arranged in the recessed portion.
8. The projector according to claim 6, wherein
an air vent is provided near a portion where the prism is attached to the inner case.
9. The projector according to claim 1, wherein
a mirror and a lens, constituting the optical system, are

fixed by resilient members.

10. The projector according to claim 1, wherein

a cable that electrically connects the electro-optical device to a driver board that controls the electro-optical device is led out from one side of the electro-optical device on the nearer side to the driver board.

11. The projector according to claim 1, wherein

the driver board that controls the electro-optical device is disposed on the top outside of the inner case.

12. The projector according to claim 11, wherein

a notched portion is formed on the driver board, and a fan that cools the electro-optical device is accommodated in the notched portion.

13. The projector according to claim 1, wherein

the driver board that controls the electro-optical device is disposed near the outer case to which the inner case is fixed.

14. The projector according to claim 1, wherein

the outer case to which the inner case is fixed has functions of positioning and supporting the optical components.

15. The projector according to claim 1, wherein

the inner case and the outer case that accommodates the color beam splitting optical system are fixed with screws to each other.

16. The projector according to claim 1, wherein

part of a housing that holds the light source is placed on an outer surface of the outer case, and the housing is made attachable to or detachable from the outer case by using the part of the housing.

17. The projector according to claim 16, wherein

the housing is formed of a resin.

18. The projector according to claim 1, wherein

an insulation coating film is applied to a portion opposite to the light source in the inner case.

19. The projector according to claim 1, wherein

the inner case is formed of a resin or metal.

20. The projector according to claim 1, wherein

the outer cases are formed of a resin or metal.